U.S. DEPARTMENT OF COMMERCE
National Technical Information Service

PB-262 873

Legislation, Programs and Organization

Environmental Protection Agency, Washington, D C

Jan 77

PB 262 873

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U. S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

1. REPORT NO.	2.	3. RECIPIENT'S ACCESSION NO.
4. TITLE AND SUBTITLE Legislation Programs and Organization		5. REPORT DATE Jan 77 6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S)		8. PERFORMING ORGANIZATION REPORT NO.
9. PERFORMING ORGANIZATION NAME AND ADDRESS - None -		10. PROGRAM ELEMENT NO. 11. CONTRACT/GRANT NO.
12. SPONSORING AGENCY NAME AND ADDRESS US Environmental Protection Agency Office of Resources Management Washington DC		13. TYPE OF REPORT AND PERIOD COVERED 14. SPONSORING AGENCY CODE

15. SUPPLEMENTARY NOTES

16. ABSTRACT

This document has been prepared to introduce to you the Environmental Protection Agency and its programs. It is organized to acquaint you with the legislation authorizing EPA activities the history and present organization of EPA, the pollution control programs operated by the Agency and the EPA budget.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS *(This Report)*	21. NO. OF PAGES 65
	20. SECURITY CLASS *(This page)*	22. PRICE 4.50

EPA Form 2220-1 (9-73)

INSTRUCTIONS

1. **REPORT NUMBER**
Insert the EPA report number as it appears on the cover of the publication.

2. **LEAVE BLANK**

3. **RECIPIENTS ACCESSION NUMBER**
Reserved for use by each report recipient.

4. **TITLE AND SUBTITLE**
Title should indicate clearly and briefly the subject coverage of the report, and be displayed prominently. Set subtitle, if used, in smaller type or otherwise subordinate it to main title. When a report is prepared in more than one volume, repeat the primary title, add volume number and include subtitle for the specific title.

5. **REPORT DATE**
Each report shall carry a date indicating at least month and year. Indicate the basis on which it was selected *(e.g., date of issue, date of approval, date of preparation, etc.)*.

6. **PERFORMING ORGANIZATION CODE**
Leave blank.

7. **AUTHOR(S)**
Give name(s) in conventional order *(John R. Doe, J. Robert Doe, etc.)*. List author's affiliation if it differs from the performing organization.

8. **PERFORMING ORGANIZATION REPORT NUMBER**
Insert if performing organization wishes to assign this number.

9. **PERFORMING ORGANIZATION NAME AND ADDRESS**
Give name, street, city, state, and ZIP code. List no more than two levels of an organizational hirearchy.

10. **PROGRAM ELEMENT NUMBER**
Use the program element number under which the report was prepared. Subordinate numbers may be included in parentheses.

11. **CONTRACT/GRANT NUMBER**
Insert contract or grant number under which report was prepared.

12. **SPONSORING AGENCY NAME AND ADDRESS**
Include ZIP code.

13. **TYPE OF REPORT AND PERIOD COVERED**
Indicate interim final, etc., and if applicable, dates covered.

14. **SPONSORING AGENCY CODE**
Leave blank.

15. **SUPPLEMENTARY NOTES**
Enter information not included elsewhere but useful, such as: Prepared in cooperation with, Translation of, Presented at conference of, To be published in, Supersedes, Supplements, etc.

16. **ABSTRACT**
Include a brief *(200 words or less)* factual summary of the most significant information contained in the report. If the report contains a significant bibliography or literature survey, mention it here.

17. **KEY WORDS AND DOCUMENT ANALYSIS**
(a) DESCRIPTORS - Select from the Thesaurus of Engineering and Scientific Terms the proper authorized terms that identify the major concept of the research and are sufficiently specific and precise to be used as index entries for cataloging.

(b) IDENTIFIERS AND OPEN-ENDED TERMS - Use identifiers for project names, code names, equipment designators, etc. Use open-ended terms written in descriptor form for those subjects for which no descriptor exists.

(c) COSATI FIELD GROUP - Field and group assignments are to be taken from the 1965 COSATI Subject Category List. Since the majority of documents are multidisciplinary in nature, the Primary Field/Group assignment(s) will be specific discipline, area of human endeavor, or type of physical object. The application(s) will be cross-referenced with secondary Field/Group assignments that will follow the primary posting(s).

18. **DISTRIBUTION STATEMENT**
Denote releasability to the public or limitation for reasons other than security for example "Release Unlimited." Cite any availability to the public, with address and price.

19. & 20. **SECURITY CLASSIFICATION**
DO NOT submit classified reports to the National Technical Information service.

21. **NUMBER OF PAGES**
Insert the total number of pages, including this one and unnumbered pages, but exclude distribution list, if any.

22. **PRICE**
Insert the price set by the National Technical Information Service or the Government Printing Office, if known.

This document has been prepared to introduce to you the Environmental Protection Agency and its programs. The document is organized to acquaint you with the legislation authorizing EPA activities, the history and present organization of EPA, the pollution control programs operated by the Agency, and the EPA budget.

I. EPA LEGAL AUTHORITIES..... 2

II. HISTORY AND ORGANIZATION.....
ORGANIZATION DIRECTORY..... 14
MAJOR FACILITIES OF EPA..... 17
19

III. PROGRAM SUMMARIES
AIR.....
WATER QUALITY..... 20
Wastewater Treatment Plant Construction Grants-
State Allocations..... 26
WATER SUPPLY..... 30
SOLID WASTES..... 31
PESTICIDES..... 33
RADIATION..... 37
NOISE..... 40
TOXIC SUBSTANCES..... 43
RESEARCH AND DEVELOPMENT..... 47
AGENCY & REGIONAL MANAGEMENT..... 50
PROGRAM MANAGEMENT & SUPPORT..... 55
58

V. EPA BUDGET
APPROPRIATIONS STRUCTURE..... 60
APPROPRIATION HISTORY..... 64

JANUARY 1977
OFFICE OF RESOURCES MANAGEMENT

EPA LEGAL AUTHORITIES

AIR

The Clean Air Act is the basic authority for the air pollution control program. The major features of the Act are as follows:

National Ambient Air Quality Standards - The Act directs EPA to establish national ambient air quality standards to protect the public health and welfare.

State Implementation Plans - To meet, maintain and enforce the standards each State must formulate an implementation plan. EPA must review each plan; if a State fails to submit a satisfactory plan, EPA is required to prepare a plan. If a State fails to enforce its plan, EPA may enforce it.

New Source Performance Standards - The Act requires EPA to set standards of performance for new and modified stationary sources of pollution. These standards are not ambient standards; they are direct emission limitations for specific types of sources, such as portland cement plants.

Hazardous Air Pollutants - For stationary source pollutants which are very toxic, the Act directs EPA to set National emission standards.

Auto Emission Controls - The Act requires EPA to establish regulations requiring a 90 percent reduction in the emissions of carbon monoxide, hydrocarbons and nitrogen oxides from 1970 model year levels. The Act originally established a compliance date of the 1975 model year to meet this reduction; the 1974 Energy Supply and Environmental Coordination Act amendments changed this to the 1977 model year. EPA is authorized to extend compliance dates by one year upon application from automobile manufacturers.

WATER QUALITY

The Federal Water Pollution Control Act Amendments of 1972 are the primary authority for the water pollution control program.

Effluent Limitations - The law directs EPA to set effluent limitations to limit discharges of pollutants from industrial and municipal sources. The law states that limitations, requiring the application of the "best practicable control technology" for industries (secondary treatment for municipal sources), shall be achieved by July 1, 1977. Effluent limitations requiring the "best available technology" for industrial sources and "best practicable waste treatment technology" for municipal sources shall be achieved by July 1, 1983.

Wastewater Discharge Permits - The Act authorizes EPA or States to issue permits for discharges of pollutants by municipal and

industrial sources. The permits generally conform with effluent limitations.

Water Quality Standards - Water quality standards are established for all navigable surface waters. Standards consist of a designation of the use of the stream (recreational purposes, agricultural and industrial, public water supply, etc.) and water quality criteria sufficient to protect the stream for such uses. Criteria are established for such parameters as temperature, dissolved oxygen, microbiological content, etc. Wherever the effluent limitations are inadequate to achieve water quality standards more stringent limitations will be applied to the sources discharging into these bodies.

Municipal Pollution Control - The Federal Water Pollution Control Act established a program of Federal grants for construction or major modification of wastewater treatment plants. The Federal share for projects is 75 percent. The act authorized $18 billion; another $700 million is authorized by the Public Works Employment Act of 1976. The Federal Water Pollution Control Act also authorizes EPA to quarantee loans by the Federal Financing Bank to municipalities or States for the non-Federal share of construction costs. The loans are to be made only when the municipality cannot obtain credit on reasonable terms to meet its share.

Planning - The Act places major emphasis on planning. Facility planning is carried out by local agencies to ensure that the most effective and efficient type of waste treatment will be selected. Integrated planning and management agencies are required to be established for all major metropolitan areas; Statewide planning is also required. The Act authorizes Federal financial support to these State and local agencies.

Ocean Dumping - Under the Marine Protection, Research and Sanctuaries Act of 1972, EPA is authorized to designate ocean dumping sites, issue permits for ocean dumping which may include implementation plans to phase out ocean dumping, and assess penalties for improper ocean dumping.

WATER SUPPLY

The Safe Drinking Water Act of 1974 is the basic authority for the Water Supply Program.

Drinking Water Regulations - The Act directs EPA to establish primary and secondary drinking water regulations--primary regulations are those necessary to protect public health, secondary regulations are those necessary to protect public welfare.

State Enforcement Responsibility - The States have the primary responsibility for enforcing the regulations; if a State fails

to assume responsibility, EPA must take primary enforcement responsibility. The Act authorizes grants to the States to aid them in establishing enforcement and monitoring programs.

Protection of Underground Sources of Drinking Water - The Act requires EPA to publish regulations for State underground injection control programs. These regulations are to prohibit underground injections which are not authorized by State permits.

SOLID WASTES

The Resource Conservation and Recovery Act of 1976 is the authority for the Solid Wastes Program.

Hazardous Waste Management - The Act requires that, after October 21, 1978, each facility that treats, stores or disposes of hazardous wastes have a permit issued by a State or EPA. EPA will publish criteria for identifying hazardous waste and a list of such wastes by April 1978. Standards governing the generation, transport, treatment, storage or disposal of hazardous wastes will also be published by April 1978. The Act authorizes Federal grant support for States that wish to operate hazardous waste programs, including the issuance of permits. If States do not establish hazardous waste programs, EPA must assume

the responsibility required by the Act.

Solid Waste Disposal Planning - The Act encourages States, communities and regional authorities to develop environmentally sound plans for solid waste disposal. Federal grant support of State and local programs is authorized through FY 1979.

Research, Development and Demonstration - The Act authorizes the Agency to conduct research, development and demonstrations in areas such as resource recovery, resource conservation and solid waste disposal.

Technical Assistance - EPA is to provide State and local Governments with technical assistance through teams of Federal, State and local employees or contractors.

PESTICIDES

The Federal Insecticide, Fungicide and Rodenticide Act as amended in 1972 and 1975 is the basic authority for the Pesticides program. It authorizes a comprehensive program to regulate the manufacturing, distribution and use of pesticides as well as major research efforts into the effects of pesticides.

Pesticide Registration - All pesticides must be registered and

classified for "general" use or "restricted" use by October 1977. Those placed in the restricted category may be used only by, or under the supervision of, certified applicators.

Applicator Certification - The States will certify pesticide applicators to use restricted pesticides; certification programs must be developed and applicators certified by October 1977.

Prohibition of Misuse - The use of registered pesticides in a manner inconsistent with labeling instructions is prohibited by the Act. The label directions and precautions are approved by EPA at the time of registration. Misuse of a pesticide is subject to civil and criminal penalties.

State Authorities - Under the Act, States may register pesticides products or issue experimental permits to meet special local needs.

Federal Assistance - The Act authorizes Federal assistance to the States for enforcement and to help develop and administer applicator certification programs.

Research and Monitoring - EPA may conduct research on pesticides and alternatives, issue experimental use permits, and monitor pesticide use and presence in the environment.

Tolerance Levels - Under authority of the Federal Food, Drug, and Cosmetic Act, EPA establishes tolerance levels for pesticide residues on food and animal feed.

RADIATION

There is no single Act which establishes the authority for EPA's radiation abatement and control program. Under Reorganization Plan No. 3 of 1970, which established EPA, certain broad authorities were transferred to EPA. These together with authorities vested under other Federal Acts but applicable to the EPA radiation program, establish the parameters for the program.

Standards and Guidelines - Under Reorganization Plan No. 3 the functions of the Federal Radiation Council were transferred to EPA. EPA issues radiation protection guidance to all Federal agencies. In addition, under the Atomic Energy Act of 1954, EPA was transferred the function of the Atomic Energy Commission to establish generally applicable environmental radiation protection standards.

Monitoring and Analysis - Under the Public Health Service Act, (42 USC 241) Section 301, EPA has the authority to monitor radiation levels in the environment.

State Assistance - The Public Health Service Act (42 USC 243),

Section 311 provides the authority to assist States in radiation control efforts; the Federal Radiation Guidance authorizes the establishment of cooperative programs with States.

Ocean Dumping - The Marine Protection Research and Sanctuaries Act of 1972 provides EPA with the authority to control the ocean disposal of radioactive wastes.

NOISE

The Noise Control Act of 1972 is the authority for EPA's noise abatement and control program.

Noise Emmission Standards - The Act directs EPA to identify products which are major sources of noise, and to establish noise emmission standards, necessary to protect the public health and welfare, taking into consideration technology and costs. EPA is to enforce compliance with these standards.

Aircraft and Airport Noise Standards - The Act directs EPA to submit proposed regulations to control aircraft and airport noise to the Federal Aviation Agency which shall consider them prior to prescribing the same regulations, a modified regulation or no regulation. If EPA believes the FAA's action does not protect the public health and welfare it may request the FAA to review its decision and make public the reason for its action.

Labeling - The Act requires EPA to prescribe labeling regulations for any product which emits noise capable of affecting the public health and welfare or which is sold on the basis of its effectiveness in reducing noise.

Railroad Noise Standards - The Act directs EPA to establish noise emmission standards for railroads taking into account the best available technology and the cost of compliance. These regulations are enforced by the Department of Transportation.

Interstate Motor Carrier Noise Standards - The Act directs EPA to establish standards for motor carriers similar to those for railroads.

TOXIC SUBSTANCES

The Toxic Substances Control Act is the authority for the Toxic Substances Program.

Testing - If the EPA finds (1) that a chemical substance may present an unreasonable risk to health or the environment, and (2) there are insufficient data to predict health or environmental effects, manufacturers may be required to conduct tests to evaluate a chemical's characteristics such as persistence, acute toxicity, or carcinogenic or mutagenic effects.

Priority of Chemicals to be Tested - The Act establishes an interagency committee to develop a priority list of chemical substances to be tested. Up to 50 chemicals may be listed by the committee; within one year of a chemical's listing EPA must initiate testing requirements or publish reasons for not requiring testing. The chemicals for which EPA may require testing are not limited to those on the list.

Premarket Notification - Manufacturers of new chemical substances must notify EPA 90 days prior to their manufacture. EPA may determine if there is inadequate information to evaluate the health and environmental effects of new chemicals and require the acquisition of additional data before the chemical is manufactured or distributed in commerce. The manufacture of a chemical for a significant new use also requires premarket notification.

Regulation of Chemical Substances - EPA may prohibit the manufacture, sale, use or disposal of new or existing chemical substances if the Agency finds these activities to present an unreasonable risk to health or the environment. EPA may also regulate the amount of a chemical that may be manufactured and used or the manner in which the chemical is used, or require chemicals to be labeled with instructions as to proper use or disposal.

Polychlorinated Biphenyls - The Act requires EPA to issue labeling and disposal regulations for PCBs by July 1977, and prohibits all production by January 1979 and distribution by July 1979.

Research and Monitoring - The Act directs EPA, in cooperation with the Department of Health, Education and Welfare, to undertake research and monitoring programs.

II. HISTORY AND ORGANIZATION

EPA was created through an executive reorganization plan designed to consolidate certain Federal Government environmental activities into a single agency. The plan (Reorganization Plan No. 3 of 1970) was sent by the President to Congress on July 9, 1970, and EPA was established as an independent Agency in the Executive Branch on December 2, 1970.

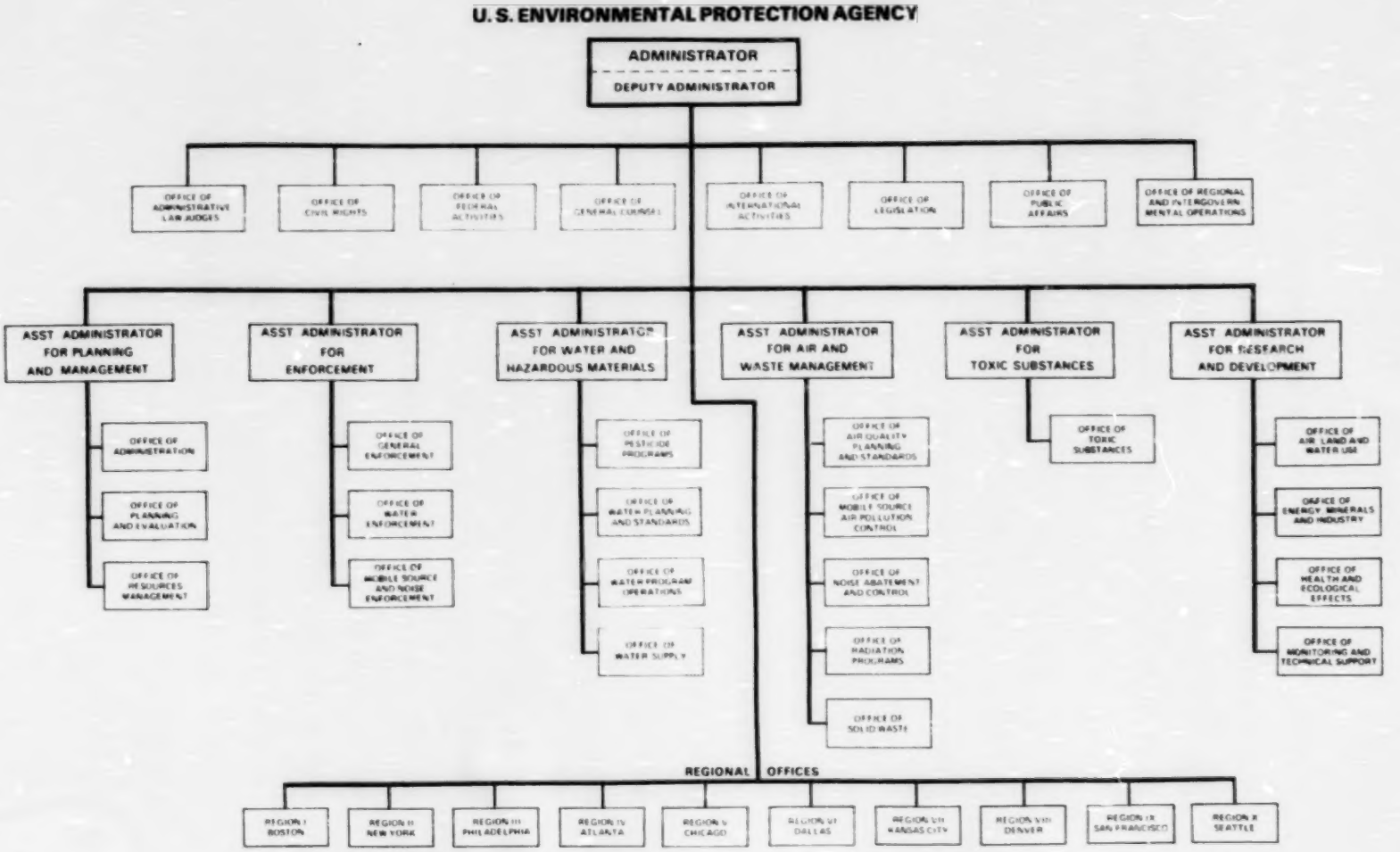
EPA was formed by amalgamating 15 components from 5 departments and independent agencies. Water quality responsibilities were transferred from the Interior Department (the Federal Water Quality Administration) and the Department of Health, Education and Welfare (The Bureau of Water Hygiene). Other activities transferred from HEW included the National Air Pollution Control Administration and the Bureau of Solid Waste Management.

In addition, EPA acquired the Department of Agriculture's authority to register pesticides and to regulate their use; the Food and Drug Administration's authority to set tolerance levels for pesticides which occur in or on food and to monitor compliance with those limits; and a portion of the Department of Interior's pesticides research program.

Finally, EPA assumed some of the Atomic Energy Commission's

and HEW's authority for setting environmental radiation protection standards. The Agency also absorbed the duties of the Federal Radiation Council. Organizationally, EPA is headed by an Administrator, who is supported by a Deputy Administrator and six Assistant Administrators (See chart). Three of the Assistant Administrators are responsible for "functionalized" activities, i.e., activities which cut across all programs. These activities are planning and management, enforcement, and research. The remaining program activities have been grouped under three other Assistant Administrators on a media or pollutant basis, e.g., water pollution, air pollution, solid waste, toxic substances, etc. The activities carried out by these offices are primarily policy development, standards and criteria development, and support and evaluation of regional activities.

EPA has made major progress in decentralizing its operating programs. It has established regional offices in conformance with the standard Federal regional boundaries and has assigned major responsibilities for carrying out EPA programs and policies to the regional offices. These include the authority to implement and enforce standards, to conduct monitoring and surveillance programs, and to provide technical and financial assistance to State and local Governments.


U.S. ENVIRONMENTAL PROTECTION AGENCY
ADMINISTRATOR
DEPUTY ADMINISTRATOR
OFFICE OF ADMINISTRATIVE LAW JUDGES
OFFICE OF CIVIL RIGHTS
OFFICE OF FEDERAL ACTIVITIES
OFFICE OF GENERAL COUNSEL
OFFICE OF INTERNATIONAL ACTIVITIES
OFFICE OF LEGISLATION
OFFICE OF PUBLIC AFFAIRS
OFFICE OF REGIONAL AND INTERGOVERNMENTAL OPERATIONS
ASST ADMINISTRATOR FOR PLANNING AND MANAGEMENT
OFFICE OF ADMINISTRATION
OFFICE OF PLANNING AND EVALUATION
OFFICE OF RESOURCES MANAGEMENT
ASST ADMINISTRATOR FOR ENFORCEMENT
OFFICE OF GENERAL ENFORCEMENT
OFFICE OF WATER ENFORCEMENT
OFFICE OF MOBILE SOURCE AND NOISE ENFORCEMENT
ASST ADMINISTRATOR FOR WATER AND HAZARDOUS MATERIALS
OFFICE OF PESTICIDE PROGRAMS
OFFICE OF WATER PLANNING AND STANDARDS
OFFICE OF WATER PROGRAM OPERATIONS
OFFICE OF WATER SUPPLY
ASST ADMINISTRATOR FOR AIR AND WASTE MANAGEMENT
OFFICE OF AIR QUALITY PLANNING AND STANDARDS
OFFICE OF MOBILE SOURCE AIR POLLUTION CONTROL
OFFICE OF NOISE ABATEMENT AND CONTROL
OFFICE OF RADIATION PROGRAMS
OFFICE OF SOLID WASTE
ASST ADMINISTRATOR FOR TOXIC SUBSTANCES
OFFICE OF TOXIC SUBSTANCES
ASST ADMINISTRATOR FOR RESEARCH AND DEVELOPMENT
OFFICE OF AIR, LAND AND WATER USE
OFFICE OF ENERGY, MINERALS AND INDUSTRY
OFFICE OF HEALTH AND ECOLOGICAL EFFECTS
OFFICE OF MONITORING AND TECHNICAL SUPPORT
REGIONAL OFFICES
REGION I BOSTON
REGION II NEW YORK
REGION III PHILADELPHIA
REGION IV ATLANTA
REGION V CHICAGO
REGION VI DALLAS
REGION VII KANSAS CITY
REGION VIII DENVER
REGION IX SAN FRANCISCO
REGION X SEATTLE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

ORGANIZATIONAL DIRECTORY

Administrator, Mr. Russell E. Train..... 755-2700
Deputy Administrator, Mr. John R. Quarles..... 755-2711

Office of Administrative Law Judges
Mr. Herbert L. Perlman..... 755-6279
Office of Civil Rights
Mr. Carol M. Thomas..... 755-0555
Office of Federal Activities
Ms. Rebecca Hanmer..... 755-0777
Office of General Counsel
Mr. G. William Frick 755-2511
Office of International Activities
Mr. Fitzhugh Green..... 755-2780
Office of Legislation
Mr. Bryan F. LaPlante..... 755-2930
Office of Public Affairs
Mrs. Patricia L. Cahn..... 755-0700
Office of Regional and Intergovernmental Operations
Mr. Peter Cashman..... 755-0444

Assistant Administrator for Planning and Management
Mr. Alvin L. Alm..... 755-2900
Office of Administration
Mr. Edward Rhodes..... 755-2911
Office of Planning and Evaluation
Mr. Paul A. Brands..... 755-2920
Office of Resources Management
Mr. Richard Redenius..... 755-2744

Assistant Administrator for Enforcement
Mr. Stanley Legro..... 755-2500
Office of General Enforcement
Mr. Richard Wilson 755-2640
Office of Water Enforcement
Mr. Jeffrey Miller..... 755-0440
Office of Mobile Source and Noise Enforcement
Dr. Norman L. Shutler 755-2530

Assistant Administrator for Water and Hazardous Materials
Dr. Andrew W. Breidenbach..... 755-2800
Office of Pesticide Programs
Mr. Edwin L. Johnson..... 755-8036
Office of Toxic Substances
Mr. Glenn E. Schweitzer..... 755-8040
Office of Water Planning and Standards
Mr. Eckhardt C. Beck..... 755-0402

Office of Water Programs Operations
Mr. John T. Rhett 426-8856

Office of Water Supply
Mr. Victor J. Kimm 426-8847

Assistant Administrator for Air and Waste Management
Mr. Roger Strelow 755-2640

Office of Air Quality Planning and Standards
Mr. Walter Barber ..... (919) 688-8146

Office of Mobile Source Air Pollution Control
Mr. Eric O. Stork 426-2464

Office of Noise Abatement and Control
Mr. Charles L. Elkins 557-7777

Office of Radiation Programs
Dr. William D. Rowe 755-4894

Office of Solid Waste
Mr. Sheldon Meyers 755-9170

Assistant Administrator for Toxic Substances
Mr. Kenneth Johnson (Acting) 755-0310

Office of Toxic Substances
Mr. Glenn Scheweitzer (Acting) 755-8040

Assistant Administrator for Research and Development
Dr. Wilson Talley 755-2600

Office of Monitoring and Technical Support
Mr. Albert C. Trakowski, Jr. 426-2202

Office of Energy, Minerals & Industry
Dr. Stephen J. Gage 755-4857

Office of Air, Land & Water Use
Dr. Thomas A. Murphy 426-0803

Office of Health and Ecological Effects
Dr. Delbert S. Barth 755-0820

Region I
Mr. John A.S. McGlennon ..... (617) 223-7210

Region II
Mr. Gerald M. Hansler ..... (212) 264-2525

Region III
Mr. Daniel J. Snyder III ..... (215) 597-9814

Region IV
Mr. Jack E. Ravan ..... (404) 526-5727

Region V
Mr. George Alexander ..... (312) 353-5250

Region VI
Mr. John C. White ..... (214) 749-1962

Region VII
Mr. Jerome H. Svore ..... (816) 374-5493

Region VIII
Mr. John A. Green ..... (303) 837-3895

Region IX
Mr. Paul Defalco, Jr. ..... (415) 556-2320

Region X
Mr. Donald P. Dubois ..... (206) 442-1220

MAJOR FACILITIES OF EPA

Environmental Research Laboratory
Narragansett, Rhode Island

Office of Air Quality Planning and Standards
Durham, North Carolina

Motor Vehicle Emission Laboratory
Ann Arbor, Michigan

Environmental Research Center
Research Triangle Park, North Carolina

Environmental Research Laboratory
Athens, Georgia

Environmental Research Laboratory
Gulf Breeze, Florida

Eastern Environmental Radiation Facility
Montgomery, Alabama

Environmental Research Center
Cincinnati, Ohio

Environmental Research Laboratory
Duluth, Minnesota

Robert S. Kerr Environmental Research Laboratory
Ada, Oklahoma

National Environmental Investigation Center
Denver, Colorado

Environmental Monitoring and Support Laboratory
Las Vegas, Nevada

Environmental Research Laboratory
Corvallis, Oregon

III. PROGRAM SUMMARIES

AIR

The basic objective of the air pollution control program is to meet the National Ambient Air Quality Standards which are the allowable level of pollutants necessary to protect public health (primary standards) and welfare (secondary standards). Standards have been set for total suspended particulates, sulfur dioxide, nitrogen dioxide, carbon monoxide, photochemical oxidants and hydrocarbons. Particulates and sulfur dioxide are emitted primarily from stationary sources such as power plants and industrial operations. Carbon monoxide is primarily associated with motor vehicles. Hydrocarbons and nitrogen dioxide emisions are related to both types of sources; atmospheric reactions of hydrocarbons and nitrogen oxides lead to the formulation of photochemical oxidants.

Controlling emissions to meet the standards is handled through two major types of activities. (1) States carry out State Implementation Plans which control pollution primarily by prescribing specific emission limitations for types of polluters, and (2) the Federal Government controls, by regulation, pollutants from new motor vehicles, certain new industrial sources and sources emitting hazardous pollutants such as mercury.

To date State Implementation Plans have been developed by the States and major portions of the plans have been approved by EPA. Schedules are being issued which require specific polluters to order and install pollution control equipment such as flue gas desulfurization equipment (scrubbers) to control sulfur oxide emissions or electrostatic precipitators to control particulate emissions. Very often emission limitations can be met without installing new equipment by modifying the combustion or industrial process or by burning cleaner fuels. Issuing schedules, monitoring their implementation and, if necessary, taking legal action to enforce them is handled primarily by State and local agencies. Federal activity is limited to situations where the States fail to take action or where especially difficult problems are encountered. EPA provides funding support to State and local agencies (about 36 percent of the total cost of their operation in FY 1975); this support is the largest single item in the air program budget and has been annually about one-third of the total air budget request.

There has been marked success in reducing some pollutant levels in the past several years. The national composite trend for levels of particulate matter (soot, smoke, etc.) showed an approximate 14 percent decline from 1970 to 1973. The estimated number of people exposed to particulate levels in excess of the annual

health related standards dropped from 73 million in 1970 to less than 50 million in 1975. For sulfur dioxide the national composite trend has declined 30 percent since 1970 and the percentage of Air Quality Control Regions reporting violations of the annual primary standard has dropped from 13 percent to 6 percent.

However, in many areas, principally urban centers, the problem is still severe. Of the 247 Air Quality Control Regions only 101 meet both the primary and secondary particulate standards. For 33 of the regions not meeting standards, the cause of non-attainment is difficult to control "fugitive dust"--wind blown dust from unpaved roads, construction sites and farms. Forty-one regions do not meet the primary and secondary standards for sulfur dioxide. The number of Air Quality Control Regions in violation of standards is expected to decline markedly in the near future, however, when the full effect of pollution controls is felt; at the end of fiscal year 1976, 84 percent of the 22,000 major stationary polluting sources were in compliance with the limitations specified in State plans, compared to 71 percent at the end of fiscal year 1975. As of June 30, 1976, an additional 6 percent of major sources were on a schedule to achieve final compliance. A more significant proportion of sources in industrial categories that contribute heavily to the total pollutant load (metal smelters, iron and steel manufacturing plants, coke batteries, coal fired power plants) are still not in final compliance however.

health related standards dropped from 73 million in 1970 to less than 50 million in 1975. For sulfur dioxide the national composite trend has declined 30 percent since 1970 and the percentage of Air Quality Control Regions reporting violations of the annual primary standard has dropped from 13 percent to 6 percent.

However, in many areas, principally urban centers, the problem is still severe. Of the 247 Air Quality Control Regions only 101 meet both the primary and secondary particulate standards. For 33 of the regions not meeting standards, the cause of non-attainment is difficult to control "fugitive dust"--wind blown dust from unpaved roads, construction sites and farms. Forty-one regions do not meet the primary and secondary standards for sulfur dioxide. The number of Air Quality Control Regions in violation of standards is expected to decline markedly in the near future, however, when the full effect of pollution controls is felt; at the end of fiscal year 1976, 84 percent of the 22,000 major stationary polluting sources were in compliance with the limitations specified in State plans, compared to 71 percent at the end of fiscal year 1975. As of June 30, 1976, an additional 6 percent of major sources were on a schedule to achieve final compliance. A more significant proportion of sources in industrial categories that contribute heavily to the total pollutant load (metal smelters, iron and steel manufacturing plants, coke batteries, coal fired power plants) are still not in final compliance however.

The control of pollutants from new motor vehicles is primarily a Federal activity. The Clean Air Act requires EPA to establish emission standards for new motor vehicles. The intent of this portion of the law, which was amended by the Energy Supply and Environmental Coordination Act of 1974, is to reduce emissions of hydrocarbons and carbon monoxide by 90 percent from 1970 levels. For the 1975 and 1976 model years carbon monoxide and hydrocarbon emissions are approximately 60 percent lower than the allowable 1970 average levels and 83 percent lower than the average of uncontrolled pre-1968 vehicles.

Other areas where Federal regulation is the primary method of control are the establishment of national emission standards for new industrial sources (New Source Performance Standards) and for new and existing hazardous pollutant sources (National Emission Standards for Hazardous Air Pollutants). To date New Source Performance Standards have been proposed or established for twenty categories of new stationary sources such as phosphate fertilizer plants, municipal incinerators, petroleum refineries and iron and steel plants. Standards will continue to be set for additional categories of sources as they provide a major tool to prevent the deterioration of air quality in areas that are now below national standards, the maintenance of air quality once standards are achieved, and the control of pollution from emerging industries such as coal gasification.

One of the major issues facing the air pollution control program is striking the proper balance between meeting environmental goals and other economic and social needs. The Energy Supply and Environmental Coordination Act of 1974 provided certain power plants the flexibility they require to switch to coal by delaying, until 1979, the date by which they must meet State Implementation Plan requirements. The compliance date extension is necessary for those plants which may have difficulty obtaining low sulfur fuel or pollution control equipment. Regardless of the length of the compliance date extension, however, in all cases the primary health standards must not be violated.

EPA suspended the statutory vehicle emission standards for hydrocarbons and carbon monoxide for the 1977 model year and proposed a staged reduction for these standards. A significant factor in the suspension decision was EPA's concern about sulfuric acid emissions from catalytic converter emission control devices. Subsequent studies suggest this will not be a significant problem. Previous and current standards, proposed standards and the statutory standard are as follows (in grams per mile):

	HYDRO CARBONS	CARBON MONOXIDE	NITROGEN OXIDES
1970-1971 Model year			
Federal standards	4.1	34.0	
1975-1976 Model year			
standards	1.5	15.0	3.1
1977 standard	1.5	15.0	2.0*
EPA Recommendation**			
(June 1976)			
1977-79	1.5	15.0	2.0
1980-81	.9	9.0	2.0
post-1981	.4	3.4	***
Statutory standard	.4	3.4	.4

*Statutory standard for model year 1977

**Adopted by House of Representatives in September 1976

***2.0 gram/mile or more stringent as warranted

WATER QUALITY

Today, almost one stream or river mile out of every three is markedly polluted. This pollution includes oxygen demanding bacteria, nitrogen and phosphorus compounds (algae nutrients), suspended solids, and industrial waste including toxic liquids and heavy metals. These pollutants come from the discharge of waste from industrial, commercial, agricultural, and municipal sources as well as runoff from activities that cover a broad land area and are associated with agriculture, silviculture, mining and construction.

The emphasis of the water quality program has been on controlling the discharge of pollutants into the waterways from specific industrial and municipal sources. Pollution from these sources is generally easier to control (as compared to controlling run-off from agriculture and similar activities) as the source of the pollution is confined, the composition of the pollutant can be more easily determined, and control measures are easier to implement. Three major methods are utilized under the Federal Water Pollution Control Act to control point source pollution: issuing wastewater discharge permits, promulgating effluent guidelines and improving the coverage and efficiency of publicly owned waste treatment works.

Wastewater discharge permits generally require sources to reduce the level of pollution to that achievable with the "best practicable technology" by 1977. Permits to be issued in the future will require the reduction of pollution to the level achievable with the "best available technology economically achievable" by 1983. The permits include schedules for installation of control equipment or process changes. Over 50,000 permits have been issued by EPA and the States; virtually all of the 9,000 major industrial and municipal dischargers have permits. EPA encourages State assumption of this program; 28 States have accepted this responsibility.

Effluent guidelines for wastewater discharge sources have been largely completed for 52 industries such as cement manufacture, phosphate production, the rubber industry, agricultural feedlots, beet sugar processing, petroleum refining, and glass manufacturing. A major emphasis is being placed upon developing guidelines to limit the discharge of toxic pollutants.

Through the wastewater treatment construction grants program, the coverage and effectiveness of publicly owned sewage treatment plants is being upgraded. A large proportion of the Nation's population is presently served by sewage systems that do not provide adequate wastewater treatment. The grants cover 75 percent of the eligible

costs of planning, designing and constructing sewage treatment plants--either new construction plants or modifications in existing plants. The Federal Water Pollution Control Act Admendments of 1972 authorized $18 billion of Federal assistance; the Public Works Employment Act of 1976 authorized $700 million.

Other aspects of the water quality program include planning assistance to control pollution in major segments of river basins, including storm water runoff and runoff from broad land areas. This effort, under Section 208 of the Act, is coordinated by State and local governments. Additional programs include technical assistance to States and local authorities and research and development into the health and environmental effects of pollutants and means of controlling them. Grant assistance is also provided to State agencies to assist them in their permit issuance, monitoring and enforcement activities.

Since the enactment of the 1972 Amendments, the major emphasis in the water quality program has been on issuing "first round" wastewater discharge permits (those designed to reduce the level of pollution to that achievable with the best practicable technology) and awarding construction grants. The emphasis is now switching to monitoring compliance with the discharge permits' requirements; additional effort is also being placed on assuring that wastewater treatment plant construction projects are properly managed.

Future years' activities will be directed toward achieving the 1983 goal of making waters fishable and swimmable. Major emphasis will be placed on toxic pollutants and pollution fron non-point sources. Program decentralization will continue with increased delegation to the States and greater priority given to integrating program activities with the States. Attention will be focused on the cost effectiveness of constructing sewage treatment facilities and on the handling of sludge which is being produced in larger and larger quantities.

Wastewater Treatment Plant Construction Grants
State Allocations

	Total Authorization for Fiscal Years 1973, 74 & 75	Total Available as of November 31, 1976*
Total	$18,480,000,000**	$6,883,168,169
Alabama	119,341,100	37,702,548
Alaska	55,937,600	11,344,233
Arizona	65,771,200	30,683,413
Arkansas	99,314,800	39,163,643
California	1,894,076,900	681,848,519
Colorado	104,466,200	43,080,159
Connecticut	308,684,700	153,717,982
Delaware	111,035,200	44,746,875
District of Columbia	146,295,800	28,516,290
Florida	705,942,500	204,496,745
Georgia	269,935,800	111,244,888
Hawaii	112,438,300	10,181,020
Idaho	43,090,500	15,917,460
Illinois	1,136,455,100	318,884,890
Indiana	483,619,900	245,956,321
Iowa	198,970,700	42,655,822
Kansas	126,616,700	59,121,713
Kentucky	201,569,400	70,904,827
Louisiana	171,252,100	79,313,856
Maine	153,097,200	10,143,444
Maryland	571,991,400	257,365,420
Massachusetts	573,905,000	254,619,714
Michigan	1,213,699,300	609,290,289
Minnesota	337,866,800	73,380,852
Mississippi	93,476,900	37,191,900
Missouri	321,853,600	97,356,591
Montana	31,246,800	12,175,495
Nebraska	81,669,500	25,256,895
Nevada	65,544,400	6,869,958
New Hampshire	153,817,300	49,832,271
New Jersey	1,300,686,700	272,340,057
New Mexico	41,689,400	17,760,981
New York	2,089,647,700	1,043,162,154
North Carolina	258,904,200	123,365,257
North Dakota	17,101,100	7,375,381
Ohio	979,291,100	406,559,574
Oklahoma	151,808,100	76,484,392
Oregon	155,533,600	34,424,118
Pennsylvania	992,799,000	396,948,379
Rhode Island	90,908,600	28,256,474
South Carolina	184,554,900	84,028,051
South Dakota	22,008,800	8,772,695
Tennessee	228,196,200	100,808,747
Texas	508,948,100	142,523,097
Utah	53,924,100	17,558,153
Vermont	45,397,400	18,862,885
Virginia	496,196,400	50,778,753
Washington	225,128,100	75,153,629
West Virginia	156,422,600	82,185,172
Wisconsin	297,482,800	116,636,696
Wyoming	12,688,100	6,788,629
Guam	14,371,200	4,662,918
Puerto Rico	175,824,400	89,085,876
Virgin Islands	15,390,700	7,634,813
American Samoa	2,322,900	1,506,200
Trust Territory of Pacific Islands	9,791,100	6,541,055

*Unobligated balance as of November 31, 1976
**Includes $480 million alloted under authority of Title III of the Public Works Employment Act of 1976 (P.L. 94-369)

WATER SUPPLY

The primary objective of the water supply program is to assure that the public is provided with safe drinking water. Today there are more than 240,000 public water supply systems serving approximately 170 million people. Many of these systems are not using the most effective equipment and techniques to collect, purify and deliver potable water to the public. A survey of 969 water supply systems in 1970 by the Department of Health, Education and Welfare revealed that 36 percent of the tap water samples contained one or more bacteriological or chemical constituents exceeding Public Health Service drinking water standards. An EPA study conducted in 1975 revealed that all of 88 water systems sampled contained some organic compounds with potential carcinogenic risks.

The Safe Drinking Water Act, under which EPA's program now operates, was signed into law in December 1974. The Act gives the Agency broad responsibilities and authorities to protect and improve the quality of potable water. Prior to enactment of the Safe Drinking Water Act, EPA's water supply authorities were quite limited.

Under the Safe Drinking Water Act the Federal government is to establish primary and secondary drinking water regulations. Major responsibilities for enforcing these regulations will be with the States. Primary regulations will specify maximum allowable contaminant levels necessary to protect health. Secondary regulations will specify

contaminant levels necessary to protect public welfare and will apply to such characteristics as the odor and appearance of drinking water. The contaminant levels for the primary standards are to be established by EPA based upon a study conducted by the National Academy of Sciences. Interim primary regulations were promulgated by EPA in December 1975 to be effecive in June 1977.

The States also have the primary responsibility for controlling underground injection. The State programs, which are being developed in accordance with EPA regulations, will control the injection of contaminants, such as industrial by-products and municipal wastes, through a permit system.

The States are being assisted in developing water supply enforcement programs and underground injection permit programs through technical assistance provided by EPA and through grant assistance. Other activities that are being undertaken include a survey of the quality and availability of rural drinking water supplies.

SOLID WASTES

Over four billion tons of waste are generated in the United States every year, of which over 10 million are potentially hazardous--that is toxic, flammable, explosive, or infectious. Potential health and environmental effects vary considerably, from the direct threat of hazardous wastes to those of non-hazardous wastes such as sewage sludge, abandoned cars, waste oil, and wastes from confined animal feeding operations.

The Resource Conservation and Recovery Act of 1976 gives EPA broad authority to regulate the disposal of hazardous wastes, encourages the development of solid waste management plans by States, local governments and interstate agencies, prohibits open dumping of wastes, and provides for a national research, development and demonstration program for improved solid waste management and resource conservation techniques.

The control of hazardous wastes will be undertaken through a system of identifying and tracking hazardous wastes as they are generated, insuring that hazardous wastes are in proper containers and are properly transported, and regulating the storage, disposal or treatment of hazardous wastes. EPA will develop criteria for identifying hazardous wastes, and promulgate a list of hazardous wastes by April 1978. Regulations applicable to generators,

transporters and operators of facilities that dispose of solid wastes will also be promulgated by that date. They will include requirements for recordkeeping, labeling, and the use of a manifest system to insure all hazardous waste is designated only for authorized treatment, storage or disposal facilities. These facilities will be authorized by permits, issued by EPA or States; permits will be issued to facilities that comply with standards to be promulgated by EPA. EPA will encourage States to develop hazardous waste management programs and issue permits; Federal grant support of State hazardous waste programs is authorized by the Act. If States do not develop hazardous waste management programs EPA will be required to issue permits for hazardous wastes.

A major objective of the Resource Conservation and Recovery Act is to protect the environment and conserve resources through the developmet of solid waste plans by States, interstate regions and municipalities. EPA will publish guidelines to assist States in identifying regions which have common solid waste management problems and are appropriate units for planning solid waste management services. After identifying regions, States may develop plans which will establish environmentally sound waste disposal and resource conservation practices and provide for the

establishment of necessary State regulatory powers. Each plan must include provisions for closing open dumps or upgrading them to sanitary landfills in accordance with criteria to be established by EPA. Open dumps are to be closed or upgraded by October 1983. A major objective of this provision is to protect the quality of ground and surface water from leachate and surface runoff contamination. To encourage States to develop solid waste plans the Act authorizes Federal financial and technical assistance. The Act also authorizes special assistance to rural communities and communities serving as the repository of other jurisdictions' waste.

The Act recognizes the need to develop and demonstrate waste management practices that are not only environmentally sound and economical but also conserve resources. The Act requires EPA to undertake a number of special studies on subjects such as resource recovery from glass and plastic waste, and managing the disposal of sludge and tires. An Interagency Resource Conservation Committee is to be established to report to the President and the Congress on the economic, social and environmental consequences of present and alternative resource conservation and resource recovery techniques. The Act also authorizes full-scale demonstrations of new solid waste management and resource recovery technologies. The

demonstrations would be similar to those completed in St. Louis and underway in San Diego. In St. Louis shredded solid waste was used to supplement coal at an electric power plant. The waste processing plant handled 650 tons per day and produced 80 tons of fuel and seven tons of ferrous metal for every 100 tons of waste. In San Diego, a heat flash pyroloyis process is being used to produce oil from organic wastes.

PESTICIDES

Pesticides are of enormous benefit to man, particularly in the area of agriculture production, sanitation and disease control. Nearly a billion pounds of pesticides, embracing 30-35,000 pesticide products formulated from more than 1,400 chemical compounds, are used annually in the United States. The use of pesticides, especially in agriculture, and particularly for cotton and corn production is widespread and has increased the health risk to humans and the potential of damage to the environment. In 1973 there were over 2800 hospital admissions resulting from the improper use of pesticides that involved farmworkers, applicators, formulating plant workers and children. The potential adverse effect on the environment of the use of less toxic but slower degrading pesticides such as the chlorinated hydrocarbons (e.g., DDT, aldrin, dieldrin, chlordane, heptachlor and toxaphene) has been demonstrated by the presence of hazardous traces of pesticides in the tissues of wildlife. The delayed health effects to humans as these compounds, soluble in body fat, are passed on in the food chain may be many years in appearing.

EPA's pesticide program is based upon three specific approaches. One, pesticides are registered to prevent harmful products from entering the market and to require labeling to assure proper use.

The 1972 and 1975 amendments to the Federal Insecticide, Fungicide, and Rodenticide Act require EPA to register, by October 1977, pesticide products for general or restricted use. Products are registered only if they perform their intended functions without unreasonable adverse effects on the environment, including humans. The registration of a pesticide may be cancelled at any time that information becomes available which indicates that continued use of the pesticide may result in unreasonable adverse effects on the environment. If an imminent threat to human health or the environment exists, the product may immediately be suspended and taken off the market.

Two, the use of pesticides is controlled. Only certified applicators or persons under their direct supervision may apply pesticides registered for restricted use. States will certify the applicators and training is being provided through a joint effort by EPA, the agriculture Extension Service and State agencies. It is expected that over two million private applicators and over 100,000 commercial applicators will be certified by October 1977, as required by the Act.

Three, monitoring and research are conducted to determine the health and environmental effects of pesticides. Both acute and chronic long-term human epidemiological studies of the health

effects of pesticide exposure are conducted with particular emphasis on new pesticides. Research is being undertaken by the National Science Foundation and the Department of Agriculture to develop environmentally safe alternative pest control techniques. To determine conformity with labels, routine sampling of pesticide products from manufacturing establishments and the marketplace is conducted as part of an enforcement program to insure compliance with registration requirements and labeling instructions.

RADIATION

The EPA radiation program is directed toward preventing all avoidable exposure of people to ionizing radiation. The need for EPA to set standards for exposure to non-ionizing radiation is being reviewed. EPA pursues this goal through three interdependent roles: (1) the development of standards and criteria, (2) assessment of the environmental impact of technology employed by other Federal agencies, and (3) surveillance of radiation levels in the environment.

EPA and the Nuclear Regulatory Commission divide responsibilities with respect to standard setting and guidance for radiation exposure. EPA is responsible for issuing generally applicable standards for the protection of the environment from all sources of radiation, including standards for the total amount of radiation from all facilities in the uranium fuel cycle. The Nuclear Regulatory Commission is responsible for developing, implementing and enforcing standards for individual nuclear facilities. EPA also develops radiation guidance for other Federal agencies. This guidance is then implemented by these agencies in their own facilities and through regulations that they promulgate and enforce.

EPA is working on standards for both short-lived and long-lived radionuclides. Long-lived nuclides are relatively permanent

pollutants and their control is particularly important in view of the expected growth in the nuclear industry. Presently EPA is developing standards for the uranium fuel cycle, nuclear accident protective action guidelines, and cleanup guidelines for areas contaminated by plutonium. Federal guidance on medical x-rays has been proposed and work is underway to control exposure from radium and uranium from phosphate plants. Preliminary work is also underway for updating Federal guidance for occupational exposure to radiation.

In the area of technology assessment, EPA performs independent environmental analyses of radiation technologies being used or proposed for use by other Federal agencies. Environmental Impact Statements, required by the National Environmental Policy Act, are prepared by other agencies whenever nuclear power plants are authorized or whenever new technologies are proposed for introduction. The statements are analyzed by EPA; these analyses have considerable effect on proposed programs and the public's acceptance of them. The High Temperature Gas Reactor, which utilizes the thorium fuel cycle and has been proposed for use in several different sites, has been assessed. Initial EPA reviews of the Liquid Metal Fast Breeder Reactor, which employs the plutonium fuel cycle, indicated issues for which additional information is required. A continuing effort in this area is evaluation of the probabilities and potential

consequences of accidental release of radioactive material. This work will provide a basis for establishing guidance in the area of emergency response planning.

EPA carries on longer range studies such as evaluation of land burial techniques to dispose of low level radioactive wastes and is developing criteria and standards for the disposal of high level radioactive waste.

The radiation surveillance fucntion performed by EPA provides an independent assessment of the overall radiological quality of the environment. An air monitoring network of 19 continuously operating samplers measures ambient radioactivity. This network is expanded to 74 sites when nuclear weapon testing is carried out above ground and radioactivity is widely distributed in the Northern hemisphere. Other specific air monitoring activities are carried on to measure plutonium, carbon-14 and krypton-85 radionuclides. Water analysis and sampling programs are carried on to measure levels of tritum and other radionuclides near specific sources of radioactive materials and at drinking water sites. Another aspect of radiation surveillance is the computation of population radiation exposure using data on specific radionuclides released from different sources.

NOISE

Noise induced hearing loss is a recognized problem particularly in highly mechanized industries and in high noise exposure occupations. An estimated 14.7 million workers are exposed to an 8-hour average sound level (Leq) above 75 decibels, a level at which there is a risk of hearing damage. An additional 13.5 million Americans are exposed to an average 8-hour level above 75 decibels as operators of or passengers in transportation or recreation vehicles.

EPA has identified the day-night sound level (Ldn) necessary to protect the general population against activity interference as 55 decibels. Outdoor day-night sound levels above 55 decibels are likely to interfere with speech communication, sleep and relaxation. An estimated 103 million people live in areas where the decibel level exceeds 55. To illustrate, the day-night sound level in a downtown urban area with some construction activity would be around 78 decibels and the operator of a power lawnmower is exposed to 85 decibels.

The EPA noise pollution control program has several major objectives:

(1) to reduce environmental (non-occupational) noise to a day-night sound level (Ldn) of 75 decibels as soon as possible. Attaining this goal will essentially eliminate the risk of hearing loss due to environ-

mental noise and reduce extreme annoyance and activity interference.

(2) as a longer term objective to reduce environmental noise levels to a day-night sound level of 65 decibels or less. As the national noise abatement program progresses it may be feasible to lower this objective to 55 decibels which would be most desirable to achieve health and welfare protection.

EPA utilizes four major approaches to meet these objectives:

(1) new product standards directed principally at surface transportation and construction noise sources,

(2) in-use controls directed principally at aviation, interstate motor carrier and railroad noise sources,

(3) product labeling to provide protection against voluntary high level individual exposure.

(4) State and local programs to control noise.

Standards have been promulgated or will be proposed to reduce noise from newly produced portable air compressors, medium and heavy duty trucks, wheel and track loaders and dozers, buses, truck mounted compactors and refrigerator units, and motorcycles. These standards will significantly reduce noise levels. For example, compliance with the portable air compressor standards will reduce construction site noise by over 14 percent; regulation of medium and heavy duty trucks and wheel and crawler tractors should increase this reduction to 45 percent.

Noise regulations are being proposed to the Federal Aviation Administration which, under the Noise Control Act, is required to hold public hearings and then decide whether the regulations should be issued. Eleven regulations have been proposed including one that would require mandatory minimum altitudes for jet airplane landing approaches. At present the FAA only "advises" that the minimum altitudes be used. If adopted, the regulation would reduce areas around airports exposed to the very highest noist levels by 20 to 25 percent. Another regulation proposed to the FAA would require a new approach and landing procedure (two-segment approach) for aircraft. Adoption of this regulation would reduce noise levels for individuals living near airports or under approach flight paths. A third regulation would require the retrofit of commercial and private jet aircraft sc that by June 30, 1978 all commercial and private jet aircraft would have to meet the levels currently specified for new aircraft. Other regulations would establish airport noise abatement planning procedures and require airlines to provide information annually on fleet noise levels.

Regulations have also been promulgated by EPA to reduce noise from in-use interstate motor carriers (over 10,000 pounds) and to reduce noise from trains. The practical effect of the interstate carrier standard would be to require replacement of mufflers or tires by about 70,000 of the more than one million

trucks and buses affected by this regulation. The reduction of noise from new train locomotives would be achieved through the installation of mufflers.

Other regulatory activity in the noise program centers around the development of labeling regulations which give notice to a prospective buyer of the level of noise the produce emits or its effectiveness in reducing noise. Work is currently underway which will lead to the labeling of devices to protect hearing.

EPA also provides technical assistance to State and Community noise control programs. Noise control at the State and local level is essential to complement Federal activities.

Enforcement activities of noise standards and labeling requirements applicable to new products will be increasing as these regulations are completed. The basic enforcement approach will be to verify that production models of regulated products comply with standards. Testing is done both by manufacturers and by EPA. A noise enforcement test facility has been established to test new products for which regulations are being developed.

TOXIC SUBSTANCES

There has been a dramatic surge in the development of synthetic organic chemicals since World War II. Chemical sales now exceed $100 billion per year and more than 30,000 chemical substances are produced in the United States for commercial purposes. Many of these chemicals have become essential in protecting, prolonging and enhancing lives. In the last few years, however, many chemicals that have been commonly used have been found to present significant health and environmental dangers. Vinyl chloride, which is commonly used in plastics, has caused the deaths of workers exposed to the chemical. Mercury has caused severe debilitating effects in Japan. Polychlorinated biphenyls (PCBs), known toxicants, continue to persist in the Great Lakes and other major waters and to accumulate in the food chain.

The Toxic Substances Control Act, which became effective January 1, 1977, gives EPA an important new tool for addressing toxic chemical problems. The Act is designed to provide better information about the potential hazards of chemical substances, prevent toxic problems through premarket screening of new chemicals, and limit the manufacture and use of potentially harmful chemicals.

Under the Act, EPA may require testing of new or existing chemicals if a chemical is suspected of presenting an unreasonable risk to health or the environment and if there are insufficient data to predict health or environmental effects. An interagency committee will

recommend the chemicals to which WPA should give priority attention with regard to testing requirements. Members of the committee are from agencies dealing with health, safety and science such as the National Institute for Occupational Safety and Health, the National Cancer Institute and the National Science Foundation. EPA must initiate testing requirements for any chemical substances listed by the committee within one year or publish reasons for not requiring testing. A maximum of 50 chemicals may be listed by the committee at any time; EPA may require testing for chemical substances not recommended by the committee.

Ninety days before initiating production of the new chemicals, or manufacturing chemicals for significant new uses, manufacturers must notify EPA. The Agency will determine if there is adequate information to evaluate the health and environmental effects of the chemicals. If the information is inadequate EPA may require the manufacturer to develop additional data before the chemical is approved for manufacture or distribution.

The Toxic Substances Control Act gives EPA broad authority to regulate the manufacture, processing, distribution, use or disposal of potentially hazardous chemicals. After considering the effects of a chemical on health and the environment, the chemical's benefits, the availability of substitutes, and the

economic consequences of regulating the chemical, EPA, through rulemaking procedures, may take any of a number of steps. If EPA finds a chemical to present an unreasonable risk of injury to health or the environment the Agency may prohibit the manufacture or distribution of the chemical, limit the amount of the chemical that may be produced, regulate the use of a chemical, require the chemical to be labeled with warnings or instructions, and prohibit or regulate the chemical's disposal. EPA may also require a chemical manufacturer to improve his quality control procedures if the manufacturing process causes a chemical to present an unreasonable risk to health or the environment. In the event that the immediate regulation of a chemical is necessary to protect human health or the environment EPA may make a rule immediately effective upon publication in the Federal Register or initiate a civil action for seizure of the chemical (or an article containing the substance), recall of the chemical, or public notification of the hazards of the chemical.

RESEARCH AND DEVELOPMENT

The EPA research and development program is designed to produce the scientific information and technical tools on which to base guidelines, standards and strategies to control environmental pollution. The major thrusts of the program are in air and water pollution research, with a strong emphasis on the acceleration of energy related environmental research. There are also significant programs dealing with such specific environmental problems as solid wastes, pesticides, radiation, and toxic substances.

The research activities in each of these programs encompass the determination of the health, ecological, and economic effects of pollutants, the identification and characterization of pollutant sources, the study of transport, transformation and ultimate disposition of pollutants in the environment, and the development of economical means of controlling pollutant discharges. Improved sampling, analytical, data handling, and quality assurance methodologies for pollutant measurement and monitoring are being developed as are new and improved technologies for pollution control and resource recovery.

The air pollution research and development program is designed to respond to the requirements of the Clean Air Act to protect public health and welfare from the adverse effects of air pollution.

Health and ecological effects studies are conducted to provide the criteria for establishing air quality standards. For example, the potential health impact of catalytic muffler related emissions is being assessed as are the health and ecological effects of such air pollutants as hydrocarbons, particulates, and nitrogen oxides. Other work is directed at researching short and long term non-criteria pollutants, assessing exposure to air carcinogens, validating models for providing estimates of atmospheric oxidant concentrations, evaluating the desirablility of utilizing emissions standards, rather then ambient air standards, in the development of pollutant control strategies, and developing monitoring methods and associated quality assurance procedures. In addition, the control technology R&D program seeks to identify sources requiring control, to assess the capabilities of existing control approaches, and to develop economical control technology for the major pollution sources.

The water quality research and development program is designed to develop cost effective wastewater control and treatment technologies for municipalities and industries, including processing alternatives to avert pollution and save energy and raw materials. The program also includes development of monitoring methods and quality assurance. Strategies for the management of pollution for such non-point sources as agricultural, mining, and construction activities are being developed. Emphasis is placed on determining the health and ecological effects of land disposal of sludges

resulting from municipal waste water treatment, utilizing industrial residuals, assessing the health and ecological effects of water quality intended for recreational and shellfish growing water, achieving cost reductions in the treatment of municipal and industrial wastewater, and determining the ecological effects of ocean dumping.

The water supply research and development program is structured to provide criteria on which to base the promulgation of drinking water standards, and develop new or improved technologies for effective and economical control of drinking water contaminants. Research efforts are focusing on detecting and identifying the existence of contaminants, determining the health effects of organic, inorganic, and microbiological contaminants of drinking water, and investigating the suitability of reusing treated municipal or industrial effluents as a potable water supply. Treatment techniques for the inactivation of viruses and the removal of asbestos, trace organics, and trace metals are also being developed. A study of the occurrence of suspect carcinogens in major metropolitan drinking water supplies will be continued.

Solid wastes research emphasizes the assessment and development of technologies for managing hazardous wastes, as well as study of the transport processes of hazardous materials and other leachates in ground water systems. The program also involves the evaluation of

deep well disposal of toxic materials and the study of the persistence, in soil and ground water, of heavy metals, organic and inorganic chemicals, pesticides, herbicides, acids, and alkalies from industrial residuals and sludge.

Pesticides research emphasizes health and ecological studies relating to the use of alternative pesticides, transport and fate of pesticides in the environment and the acute inhalation effects of pesticides. Mutagenesis screening systems and alternative methods of pest control (e.g. biological) are being developed, along with the necessary monitoring and quality assurance methodologies.

The radiation research program provides an information base for standards setting and regulatory actions and focuses primarily on the health effects of non-ionizing radiation.

The EPA energy-related environmental research and development program is part of a national effort to achieve energy self-sufficiency. The purpose of the program is to provide a sound technical and scientific basis for achieving this goal while insuring protection of human health and welfare. There are two major activities: the processes and effects program to determine the health and environmental effects (and hence the control requirements) associated with energy extraction,

transmission, conversion and end use, and a control technology program to develop and demonstrate necessary pollution control techniques. The main thrust of the processes and effects program is the acceleration of research on the health and ecological implications of new and advanced energy production technologies and conservation measures. The control technology program involves the assessment of the pollution potential of a variety of energy source effluent streams and the technological processes which produce those pollutants, as well as research and development on control devices and process modifications to reduce the impact of the pollutants on the environment.

A research and development program is being conducted to provide the methodology, instrumentation, and quality assurance procedures needed to detect pollutants and their transformation products in all environmental media, and to evaluate compliance with standards. The expertise in this research program is frequently called upon to provide assistance to States in their monitoring programs or in dealing with emergency situations.

AGENCY AND REGIONAL MANAGEMENT

Agency and Regional Management is funded by a separate appropriation which provides for the overall policy direction and administration of Agency programs as well as for certain common services and functions which can be most effectively managed on a centralized basis. For purposes of clarity it is useful to think of these activities as falling under two main headings: first, "management" and second, "support."

Management covers the salaries and related expenses of personnel involved in program direction or in the provision of management of administrative services and includes the following specific activities:

* Agency management which covers the top level policy direction of all Agency programs provided by the Administrator and his immediate staff and staff offices; the Agency-wide planning and management functions of the Office of Planning and Management; and the centralized administrative services provided to operations located in Washington, D.C., Research Triangle Park, N. C. and Cincinnati, Ohio.

* Regional Management which includes the direction of

program operations by each of the 10 Regional Administrators and their immediate staffs as well as the general management and administrative functions provided by the Management Division of each Region.

The support area does not involve personnel and consists mainly of housekeeping or common service items; these can be characterized as follows:

* Agency support which covers the services required to support program operations at EPA Headquarters, Research Triangle Park, N.C., and Cincinnati, Ohio such as office services, printing, communication costs, utilities, guard and janitorial services, etc. Also included are certain Agency-wide services which are managed on a centralized basis including facilities rental, postal service, charges for the Federal Telecommunications Service, centralized ADP services, security clearances and the like.

* Regional support which includes the support service requirements of the 10 Regional offices which are not covered by the Agency-wide services noted above, and

covers items such as office services and supplies, communications, guard and janitorial services.

In EPA's budget these activities are discussed under the Agency and Regional Management appropriation. However, the estimates for that appropriation do not reflect the full amount of these costs. This is because the total amounts required for Agency and Regional support activities are allocated among the various EPA appropriations on a pro-rata basis so as to associate these quite significant costs with the various programs which benefit from them. The amounts allocated to the Abatement and Control, Research and Development, and Enforcement appropriations are included under a heading entitled "Program Support" which is common to each of these appropriations. The residual amounts allocated to the Agency and Regional Management appropriation are charged to headings under that appropriation entitled "Agency Support" and "Regional Support."

PROGRAM MANAGEMENT AND SUPPORT

Each of EPA's appropriations includes an activity entitled "Program Management and Support" which covers the direction and management of EPA's major line organizations--Air and Waste Management, Water and Hazardous Materials, Toxic Substances, Research and Development, and Enforcement as well as the "overhead" services required to support these organizations. Specifically it includes:

* Program management which covers the program direction and administrative/management activities of the Assistant Administrators who direct EPA's major line organizations, their principal deputies, office directors, and supporting staffs. Also included are the management and supporting staff of the laboratories and other field installations which are under the management of these major line organizations, as well as the Office of General Counsel and the legal staffs of the 10 Regional Offices.

* Program support - This includes general and technical support services required by certain of the laboratories and other field installations which are managed by EPA's major line organizations. It also includes a pro-rata

share of Agency-wide supoort costs which are allocated to the various EPA appropriations in the manner described in the previous section on Agency and Regional Management.

IV. EPA BUDGET

EPA APPROPRIATIONS STRUCTURE

EPA currently has seven individual appropriation accounts. The first five of the appropriations constitute the basic operating budget of the Agency; the latter two are exclusively for grants and overseas activities.

Abatement and Control - This appropriation includes the development of standards and regulations, grants and other assistance to States and localities, and monitoring of the status of pollutants in the environment.

Enforcement - The primary activity in this appropriation is the enforcement of Federal regulations, including compliance monitoring, water quality permit issuance and initiation of legal action against violators.

Research and Development - This appropriation includes research activities aimed at supporting the Agency's standard setting activities and development of new technology for the control of pollution.

Agency and Regional Management - This appropriation provides for basic central management and support activities, including overall program direction, progress assessment, program evaluation, finance, personnel, printing, facilities management, etc.

Buildings and Facilities - The design and construction of all new EPA owned facilities as well as repairs and improvements to Federally owned facilities is included in this appropriation.

Scientific Activities Overseas - This appropriation is used to purchase excess foreign currencies from the Treasury Department to finance cooperative environmental activities in excess currency countries such as Poland, Egypt, India and Pakistan.

Construction Grants - This appropriation finances grants to municipalities for the construction of wastewater treatment facilities. Obligational authority consists primarily of contract authority provided under P.L. 92-500. Appropriations to liquidate the contract authority are requested as needed.

The appropriations structure has been changing continously since the Agency was established in 1970. Initially, the operating budget was included in a single appropriation, Operations, Research and Facilities. This account was split into four pieces in FY 1973 - Research and Development, Abatement and Control, Enforcement, and Agency and Regional Management. Energy Research and Development was added in FY 1975 to cover work related to new energy programs and in FY 1977 combined with the Research and Development appropriation. The Buildings and

Facilities appropriation, constructed from portions of each of the four operating budget appropriations, was also added in FY 1975. Scientific Activities Overseas and Construction Grants have been separate appropriations from the inception of the Agency.

Funds appropriated under the Enforcement and Agency and Regional Management appropriations must be obligated in one year. Funds appropriated under the Abatement and Control and Research and Development appropriations are available for obligation for two years. Funds appropriated under the other appropriations are available until expended.. Funds appropriated under the old Operations, Research and Facilities account were also available until expended.

To provide flexibility between appropriations, Congress has approved language to permit the Agency to transfer up to seven percent of any appropriation except Construction Grants to any other appropriation. This provision enables EPA to make small fund shifts required in day-to-day management without obtaining Appropriation Committee concurrence. Major shifts exceeding seven percent and minor shifts accumulating to more than seven percent are cleared with the committee.

In addition to the appropriation structure, EPA plans and budgets by "media", or major program areas. The media are:

Air
Water Quality
Water Supply
Solid Waste
Pesticides
Radiation
Noise
Interdisciplinary
Toxic Substances
Energy
Program Management and Support
Agency and Regional Management

Media programs cross appropriation lines. For example, Air programs are supported by funds from Abatement and Control, Enforcement and Research and Development.

Program strategies are generally developed along media lines rather than by appropriation. Consequently, it is generally easier to understand major programs on a media basis. In the interest of clarity, therefore, the EPA budget justification is organized by media. Program segments corresponding to the appropriation breaks are separately described within the total media section.

The Appropriations Committees have also placed controls on shifts between media. The Agency may add or subtract up to ten percent of the funds provided for any media. Greater changes require clearance with the Committees. Although this is not a legal restriction in the sense of the limitations on transfers between Appropriations, the practical effect is similar.

EPA APPROPRIATION HISTORY
(in thousands of dollars)

	FY 1972	FY 1973	FY 1974	FY 1975	FY 1976	FY 1977	FY 1978 Request
Operations, Research & Facilities	440,520	---	---	---	---	---	---
Research & Development	---	177,221	159,427	170,157	164,871	259,496	261,287
Abatement & Control	---	266,089	356,015	428,488	375,283	379,588	394,698
Enforcement	---	34,020	45,812	52,843	52,263	56,331	68,748
Agency & Regional Management	---	45,891	55,694	59,107	71,583	70,890	71,860
Energy, Research & Development	---	---	---	134,000	100,550	---	---
Buildings & Facilities	---	---	---	1,400	2,969	2,100	1,142
Subtotal	440,520	523,221	616,948	845,995	767,519	768,405	797,735
Scientific Activities Overseas	7,000	4,000	2,000	---	4,000	5,000	5,000
Construction Grants	2,000,000	6,900,000	4,000,000	9,000,000	---	---	4,500,000
Total	2,447,520	7,427,221	4,618,948	9,845,995	771,519	773,405	5,302,735

GPO 913-077